REMARKS

This Supplemental Response further limits independent claims 1 and 22 by adding the limitation "wherein the porous membrane is a sensor exhibiting sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction" which is supported by claim 9 and paragraph [0042] of the specification as published as US Pub. 20050148064. Furthermore, the Supplemental Response provides some additional argument to rebut the obviousness rejection in the Office Action of February 20, 2008.

Claims Rejections - 35 USC § 103

Claims 13-14, and 34-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0136679 to Bohn in view of US Patent No. 6,248,539 Ghadiri et al., hereinafter ("Ghadiri").

This rejection is respectfully traversed.

Claims 1 and 22 now further recite, "wherein the porous membrane is a sensor exhibiting sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction." As explained in paragraph [0042] of the specification as published as US Pub. 20050148064, the porous membrane may be made to exhibit sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction, either through the use of a base substrate (e.g., PSi or PPSi), addition of a sensor layer, or chemical doping. Bohn, in contrast, discloses a device in which the porous membrane is made of "polycarbonate film (PCTE)." (Paragraph [0026]). Polycarbonate film in Bohn's device is simply ***not*** capable of "exhibiting sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction" as recited in independent claims 1 and 22 as polycarbonate is not a semiconductor material such as silicon that can be used for electronics and photovoltaic applications.[1] Indeed, to monitor the flow of the reagent molecules through the device, Bohn

[1] "Pure silicon is used to produce ultra-pure silicon wafers used in the semiconductor industry, in electronics and in photovoltaic applications. Ultra-pure silicon can be doped with other elements to adjust its electrical response by controlling the number and charge (positive or negative) of current

attaches fluorophores to the reagent molecules because polycarbonate on its own does not exhibit sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction:

> Transport control was monitored with fluorescence spectroscopy and imaging of fluid streams containing small molecule fluorophores by interrogating the fluorescence signal on either the originating or the receiving channel side of the nanofluidic membrane. (paragraph [0060]).

In addition to the arguments made in the Amendment filed on May 20, 2008, as discussed above, Bohn tracks the transport of reagent molecules through his separation device by tracking fluorophores attached to the reagent molecules. Thus there are at least two additional reasons why one of ordinary skill would not substitute the PCTE membrane of Bohn with the porous silicon sensor of Ghadiri. First, because Bohn already has a method of tracking reagent molecules, there would have been simply no motivation or need to replace the PCTE membrane of Bohn with the porous silicon sensor of Ghadiri as the silicon sensor would have provided no additional benefit in Bohn's device, and yet would have added cost and complexity. Second, if one would have replaced the PCTE membrane of Bohn with the porous silicon sensor of Ghadiri and removed the fluorophores in Bohn's device, and relied only on the porous silicon sensor of Ghadiri, one would have lost the ability to track the progress of the reagent molecules through the separation device of Bohn, thereby fundamentally changing the operation of the device of Bohn and making Bohn's device inoperable for tracking the progress of the reagent molecules. For at least these reasons, one of ordinary skill in the art at the time of the invention would not have been motivated to replace the PCTE membrane of Bohn with the porous silicon sensor of Ghadiri. Applicants, therefore, respectfully request withdrawal of the rejection.

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carriers. Such control is necessary for transistors, solar cells, integrated circuits, microprocessors, semiconductor detectors and other semiconductor devices which are used in electronics and other high-tech applications. In Photonics, silicon can be used as a continuous wave Raman laser medium to produce coherent light, though it is ineffective as a light source.." See http://en.wikipedia.org/wiki/Silicon.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By /Raj S. Davé/
Raj S. Davé, Ph.D.
Registration No.: 42,4653
DARBY & DARBY P.C.
P.O. Box 770
Church Street Station
New York, New York 10008-0770
(202) 639-7515
(212) 527-7701 (Fax)
Attorneys/Agents For Intel Corporation